REMARKS

Initially, Applicants would like to thank the Examiner to conduct a telephone interview with their counsel on March 15, 2010 to discuss issues raised in the final office action dated November 13, 2009 ("final Office Action") and the advisory action dated February 25, 2010 ("Advisory Action"). This document, in response to both the final Office Action and the Advisory Action, also serves as an interview summary.

As proposed by Applicant's counsel and agreed to by the Examiner during the telephone interview, Applicants have hereby amended claims 6 and 9 to promote clarity. See the discussion below. **The amendments should be entered as they raise no new issues that will require further consideration or search and also do not touch the merits of the application within the meaning of 37 C.F.R. § 1.116(b).**

Claims 1, 2, 4, 6, 7, and 9 are pending and under examination. Applicants respectfully request that the Examiner reconsider this application in view of the following remarks.

Claim Amendments

In their response (dated February 13, 2010) to the final Office Action, Applicants deleted "up to 700°C" from claim 6 and added it to claim 9, from which claim 6 depends.

In the advisory action, the Examiner refuses to enter these amendments on the ground that they raise new issues that require further search and consideration.

In the telephone interview, Applicants' counsel pointed out that deleting "up to 700°C" from claim 6 would make it more clear that the first heat temperature recited in the claim ranges from "400-900°C." He further argued that, since the first heat temperature being "400-900°C" had been previously searched and considered, this deletion would not raise new issues that require further search and consideration.

The Examiner accepted this argument and agreed to enter the above amendment to claim 6.

On the other hand, the Examiner pointed out during the telephone interview that since "up to 700°C" had never been searched and considered, its addition to claim 9 had

raised new issues that would require new search and consideration. Applicants have withdrawn the addition of this limitation to claim 9.

Rejection under 35 U.S.C. § 103

Claims 1, 2, 4, 6, 7, and 9 are rejected for obviousness on two grounds. Applicants address the two grounds separately below.

I

Claims 1, 2, and 4 are rejected for being obvious over Kang et al., US Patent No. 5,650,129 ("Kang") in view of Duraiswami, US Patent No. 6,616,873 ("Duraiswami"). See the Office Action, page 3, lines 8-10.

Claim 1 covers a method of fabricating a porous silica sphere in which a silica gel is heat-treated in a **rotary** tube furnace.

Kang teaches a process of fabricating porous silica balls that it has a low density between 0.05 and 1.5 g/cm^3, preferably 0.1-0.4 g/cm^3, in a **stationary** furnace. See column 1, lines 14-18. Duraiswami teaches a process of preparing macroporous ceramic spheres having a high crush strength in a **rotary** tube furnace. See column 2, lines 49-52.

In the last response, Applicants pointed out that, in view of the facts that Kang requires that silica balls have a low density and Duraiswami teaches that use of a rotary furnace increases the density of spheres, a skilled artisan would not have modified the Kang process by using the rotary tube furnace as taught in Duraiswami, as doing so would have rendered this method unsatisfactory for its intended purpose, i.e., obtaining silica balls of a very low density.

In the Advisory Action, the Examiner asserted that Duraiswami also teaches obtaining spheres having a density of 1.35 g/cm^3 (referring to Table 9), which falls within the range of 0.05-1.5 g/cm^3 mentioned in Kang. She proceeded to conclude that since Duraiswami's use of a rotary tube furnace satisfies Kang's intended purpose, a skilled artisan would have been motivated to perform the above-mentioned modification.

During the telephone interview, Applicant's counsel pointed out that the Examiner's conclusion is based on a fallacious ground. Kang teaches that "silica balls are of a size in a range of 2-15 mm." See column 2, lines 23-24. Duraiswami, on the

other hand, teaches a majority (58%) of the pores in the ceramic spheres are of diameters between 15-30 mm. See Table 9 at column 8. Thus, the pores in Duraiswami's ceramic spheres are much bigger than the pores in Kang's silica balls. As pores occupy space but have no weight, the bigger the pores, the lower the density. It follows that Duraiswami's ceramic spheres have a lower density than Kang's silica balls. A skilled artisan would easily extrapolate that if Kang's silica balls are prepared by using a rotary tube furnace as taught in Duraiswami, these silica balls containing small pores have a much higher density than the 1.35 g/cm^3 density of Duraiswami's ceramic spheres containing large pores. Thus, in view of the Kang's requirement of a low density, he or she would not have been motivated to modify the Kang's method to use a rotary tube furnace taught in Duraiswami. In other words, claim 1 is not rendered obvious by Kang and Duraiswami. Neither are claims 2 and 4, both of which depend from claim 1.

At the end of the telephone interview, the Examiner agreed to thoroughly consider this argument, for which Applicants express their gratitude.

For a complete record, Applicants would like to point out that claim 2 is distinguishable from Kang and Duraiswami on a second and independent ground.

Claim 2 requires that the silica sphere has pores of a size ranging from 20-70 angstroms. As mentioned above, Kang suggests using silica balls having pores of a size of 2-15 mm and Duraiswami teaches using ceramic spheres having pores of a size of about 15-30 mm. As neither Kang nor Duraiswami teaches or even suggests silica having a pore size of 20-70 angtroms (which is about 1000 times smaller than those told in Kang and Duraiswami), their combination also fails to do so. Thus, on this additional ground, claim 2, which requires a pore size of 20-70 angstroms, is not rendered obvious by Kang and Duraiswami.

II

Claims 6, 7, and 9 are rejected for being obvious over Kang in view of Dobson et al, US Patent No. 4,392,988 ("Dobson") and Duraiswami. See the Office Action, page 5, lines 3-5.

Claim 6 covers a method for fabricating a porous silica sphere using at least two **rotary** furnaces.

As discussed above, Kang does **not** suggest using a **rotary** tube furnace, let alone using at least two rotary tube furnaces.

Turning to Dobson, it teaches a method of treating activated alumina. See column 6, lines 1-13. More specifically, this reference teaches heat treatments in at least two chambers. See column 5, lines 9-17. In other words, the Dobson method uses at least two **stationary** chambers, not at least two rotary tube furnaces. Thus, Dobson, like Kang, does not suggest using at least two rotary tube furnaces, as required by the method of amended claim 6.

As also discussed above, contrary to the Examiner's assertion, a skilled artisan would not have been motivated to modify the Kang method by using the rotary tube furnace as taught in Duraiswami.

As (1) Kang and Dobson do not suggest using a rotary tube furnace and (2) Duraiswami does not provide motivation to modify the Kang method by using a rotary tube furnace, Applicants respectfully submit that amended claim 6 is not rendered obvious by these three references, either taken alone or in combination. Nor are claims 7 and 9, which both depend from claim 6.

CONCLUSION

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment.

In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed.

Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

The Petition for Extension of Time fee in the amount of $130 is being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other charges or credits to Deposit Account No. 50-4189, referencing Attorney Docket No. 76303-003US1.

Respectfully submitted,

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